



[54] MOBILE BI-PLANAR FLUOROSCOPIC IMAGING APPARATUS

[75] Inventors: Barry Hanover; Larry Anderton; Steven Curtis, all of Salt Lake City, Utah

[73] Assignee: OEC Medical Systems, Inc., Salt Lake City, Utah

[21] Appl. No.: 08/977,311

[22] Filed: Nov. 24, 1997

[51] Int. Cl.⁷ H05G 1/70

[52] U.S. Cl. 378/92; 378/101; 378/197

[58] Field of Search 378/41, 42, 92, 378/101

[56] References Cited

U.S. PATENT DOCUMENTS

- 3,424,901 1/1969 Kok .
- 3,549,885 12/1970 Andersson .
- 3,617,749 11/1971 Massiot .
- 4,541,293 9/1985 Caugant .
- 4,884,293 11/1989 Koyama .
- 4,887,287 12/1989 Cobben .
- 4,918,716 4/1990 Hahn .

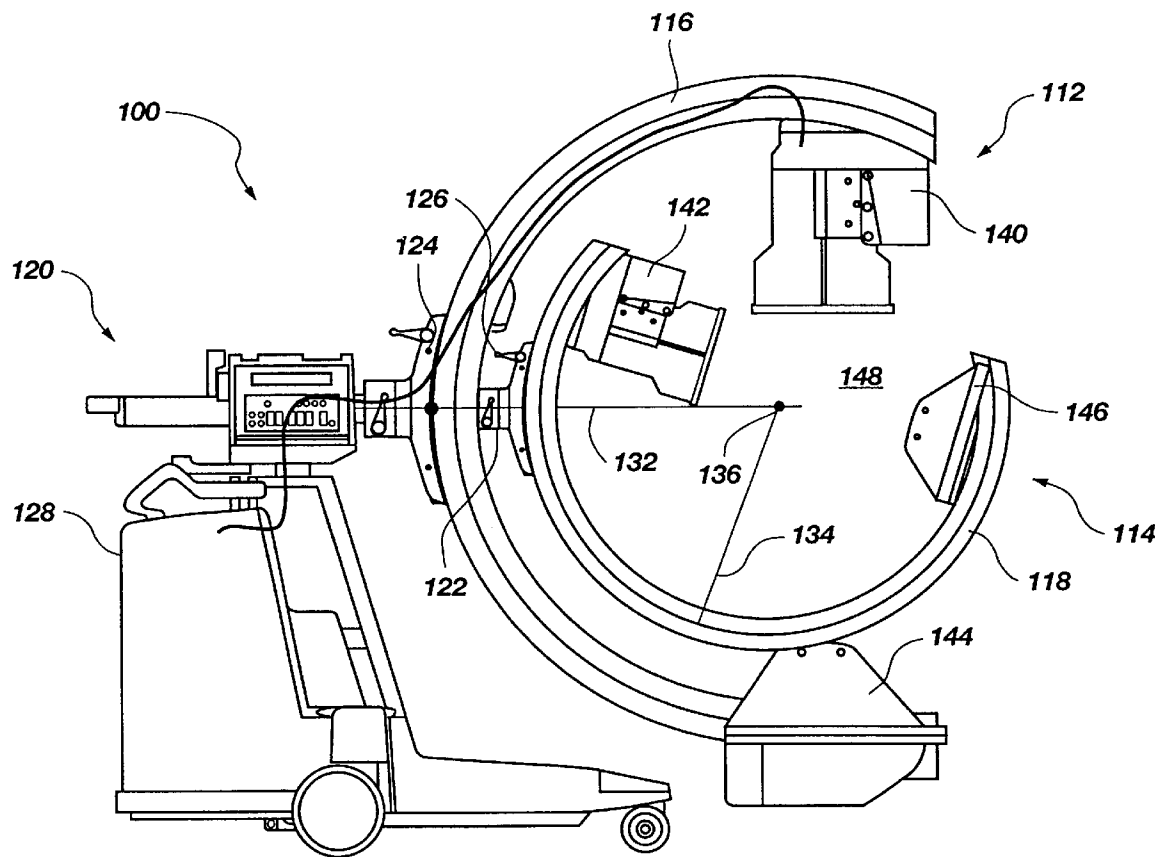
- 5,095,501 3/1992 Kobayashi .
- 5,107,528 4/1992 Asahina et al. 378/41
- 5,367,554 11/1994 Kobayashi .
- 5,386,453 1/1995 Harrawood .
- 5,515,416 5/1996 Siczek 378/197

Primary Examiner—Craig E. Church
Attorney, Agent, or Firm—Thorpe, North & Western, LLP

[57] ABSTRACT

A mobile, bi-planar fluoroscopic imaging apparatus has first and second imaging systems disposed on first and second C-arms. The C-arms are preferably disposed on wheeled bases allowing for movement from one place to another. Alternatively, the first C-arm is large and disposed on a wheeled base while the second C-arm is smaller and disposed on the first C-arm such that it nests. A controller sends trigger pulses to the imaging systems causing the systems to alternate operation. Alternatively, the first and second systems are configured in a master/slave relationship with the master system sending triggering pulses to the slave. A display continuously displays the images produced by the imaging systems such that an image produced by the first system is displayed while the second system operated to produce an image and vis versa. A storage device stored the images as they are produced and later delivers the images to the display for viewing.

21 Claims, 5 Drawing Sheets



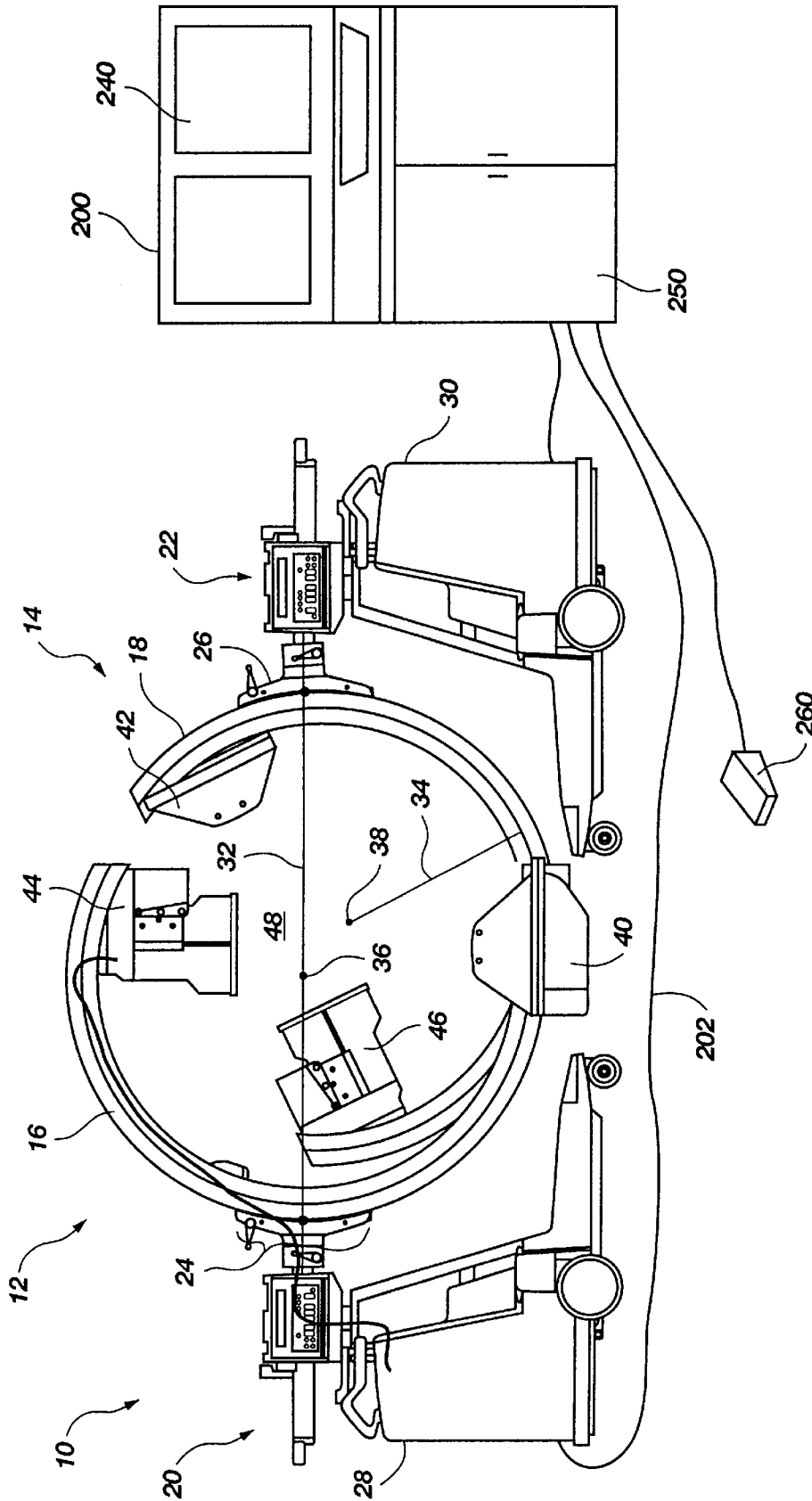


Fig. 1

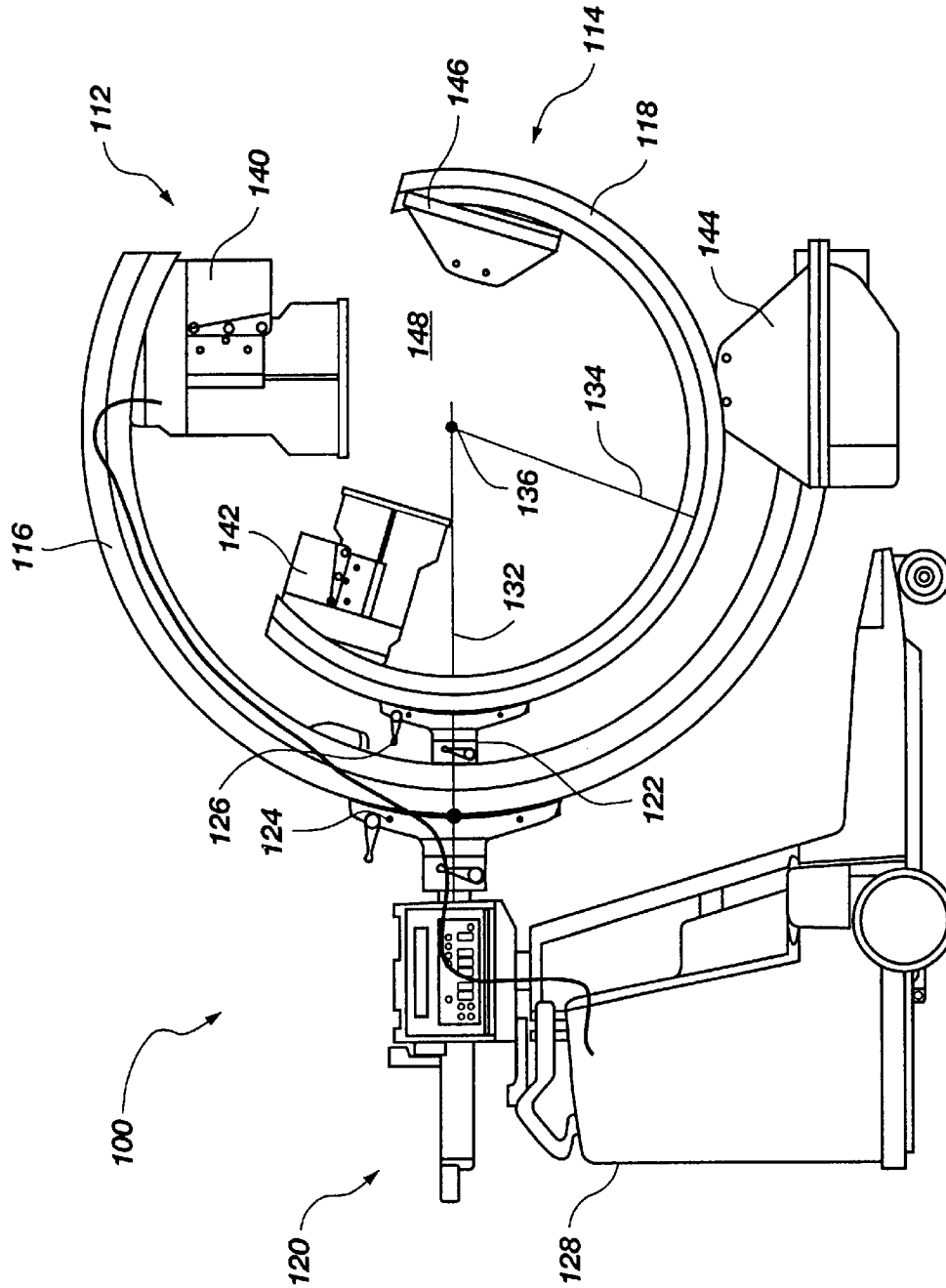


Fig. 2

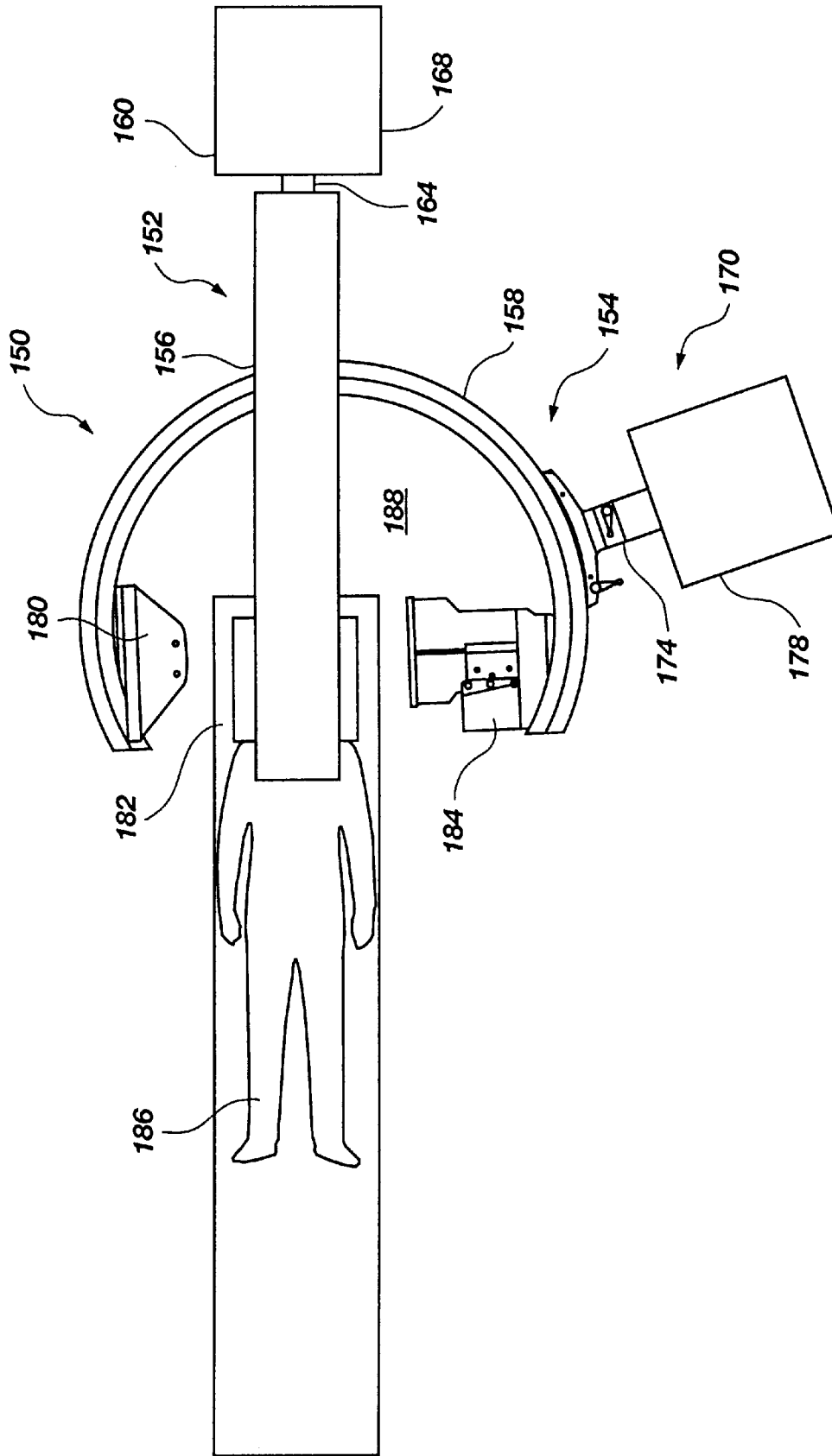


Fig. 3

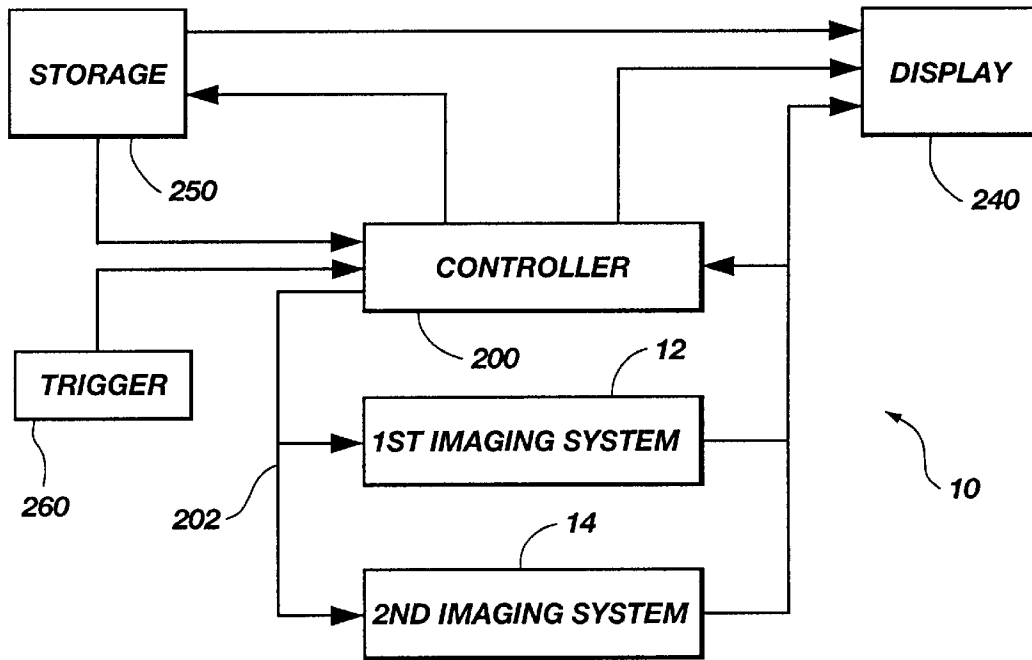


Fig. 4

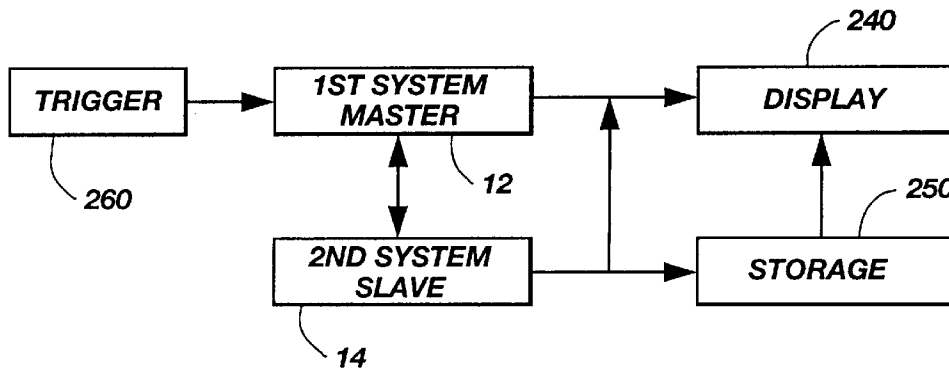


Fig. 5

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.